

ABSTRACT

A polymer-based flexible structure with integrated sensing/actuator means is presented. Conventionally, silicon has been used as a piezo-resistive material due to its high gauge factor and thereby high sensitivity to strain changes in a sensor. By using the fact that e.g. an SU-8 polymer is much softer than silicon and that e.g. a gold resistor is easily incorporated in SU-8 polymer structure it has been demonstrated that a SU-8 based cantilever sensor is almost as sensitive to stress changes as the silicon piezo-resistive cantilever.